



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Phoenix Field Office
21605 North 7th Avenue
Phoenix, AZ 85027

IN REPLY REFER TO:

1620 (020)

June 5, 2002

Dear Reader:

The Bureau of Land Management, Phoenix Field Office, has completed an Environmental Assessment (EA) and issued a decision permitting the Arizona Game and Fish Department to maintain 16 wildlife water catchments within the Sonoran Desert National Monument (SDNM). The maintenance of many of these catchments was analyzed in the Maricopa Complex Wilderness Management Plan EA and Decision Record (BLM 1995), however, with the designation of the SDNM, additional analyses were required.

The purpose of this letter is to notify interested parties that this EA has been completed and the Decision Record signed. This EA may be viewed at: http://www.az.blm.gov/sonoran/sondes_main.htm

This decision may be appealed until July 8, 2002. **You can appeal if you are adversely affected by this decision and you think the decision is in error.** This decision may be appealed to the Interior Board of Land Appeals (IBLA), in accordance with the regulations contained in 43 CFR Part 4. The appeal must be filed in the Phoenix Field Office, **Attention: Lori Young**, 21605 North 7th Avenue, Phoenix, AZ 85027 during the 30-day appeal period ending July 8, 2002. A copy of the appeal must also be filed with the Office of the Field Solicitor, USDI, Attention: Richard Greenfield, Sandra Day O'Connor US Courthouse, Suite 404, 401 West Washington Street, SPC 44, Phoenix, AZ 85003-2151. The appellant has the burden of **stating the reasons** why the decision **being** appealed is in error. **Additional information on taking appeals to the Interior Board of Land Appeals is provided on Form 1842-1, attached.**

This decision will become effective on July 9, 2002. An appellant may file a petition for a stay of the effectiveness of the decision during the time the appeal is being reviewed by IBLA, **as described in 43 CFR Part 4.21.** The petition for a stay must accompany the notice of appeal. A petition for a stay is required to show sufficient justification based on the Standards for Obtaining a Stay, contained at 43 CFR 4.21(b). The Standards include: the relative harm to the parties if the stay is granted or denied, the likelihood of the appellant's success on the merits, the likelihood of immediate and irreparable harm if the stay is not granted, and whether the public interest favors granting the stay.

Questions regarding the content of this EA or the appeal process should be directed by e-mail to Lori Young at Lori_Young@blm.gov or by phone at (623) 580-5655.

Thank you for your interest in public land management.

SIGNED BY:
MarLynn Spears
Acting Field Manager

AUTHENTICATED BY:
Jim Whitehall
Administrative Assistant

**Maintenance of 16 Wildlife Water Catchments Within the
Sonoran Desert National Monument
Bureau of Land Management
Phoenix Field Office
EA AZ020-2001-0035**

Bureau of Land Management
Phoenix Field Office
21605 North 7th Avenue
Phoenix, Arizona 85027

May 2002

Decision: The Arizona Game and Fish Department in cooperation with BLM will maintain catchments #446 T.3S., R.3W., Sec 26 SWSW; #449 T.4S., R.4W., Sec 1 NENW; #450 T.4S., R.3W., Sec 19 SENW; #451 T.4S., R.2W., Sec 32 NESW; #452 T. 5 S., R. 3 W, Sec 3, NWNE; #453 T.3S., R.2W., Sec 24 SWNE; #554 T.7S, R2E., Sec 30 NWNW; #555 T.7 S., R 2E.; #691 T.8 S., R 3E., #705 T.8S., R2E., Sec 8 NENE; #396 T.7S, R2W., Sec 14 NWNW; #397 T.7S, R2W., Sec 33; #433 T.7S, R2W., Sec. 16 NENW; #501 T.8S, R1W., Sec 28 NWSE; #502 T.8S, R1W., Sec 10 NWSE; and #792 T.7S, R3W., Sec 25 SENW in the Sonoran Desert National Monument.

Finding of No Significant Impacts: Based on the analysis of potential environmental impacts contained in the attached environmental assessment, impacts are not expected to be significant and an environmental impact statement is not required. The proposed action will have no affect on the President's energy policy.

Rationale for Decision: The Proposed Action will increase the storage capacity, update and replace worn or malfunctioning parts, provide dependable year-round water, and eliminate regular water hauling trips to catchments within the Sonoran Desert National Monument. The Proposed Action is in compliance with all approved wilderness management objectives for the North Maricopa Mountains, South Maricopa Mountains, and Table Top Wilderness Areas as described in the Maricopa Complex Wilderness Management Plan, Environmental Assessment and Decision Record (BLM 1995). It was the objective of the Maricopa Complex WMP EA/DR to increase the storage capacity of the existing wilderness wildlife water catchments by modification within and adjacent to wilderness areas by 2001. Additionally, the modification of these catchments would eliminate or reduce the need for a minimum of six instances of mechanized transport within wilderness each year (Decisions 1.4, 4.1 and 4.2)

Recognizing that there are gaps in the information available and some contradiction in the literature, there still is convincing evidence that water developments benefit wildlife populations. Traditionally, free standing water has been considered the primary limiting factor for desert game species in Arizona. This continues to be a point of contention among some wildlife specialists. The Bureau of Land Management has traditionally cooperated with state wildlife agencies to maintain wildlife waters throughout the West. The Phoenix Field Office will continue that cooperation with the AGFD in the maintenance of the wildlife waters addressed in the Proposed Action since they are considered necessary to maintain existing populations or support increases in depressed populations. As more information on the presence of artificial waters becomes available, this information will be considered in future actions.

Stipulations: A copy of BLM stipulations will be issued to all supervisors, crew chiefs, etc., involved in the actual construction phase of the proposed improvements.

The Arizona Game and Fish Department will submit an amendment to the Phoenix Field Office for review and approval prior to any deviation from the approved action.

Should any archaeological artifacts (historic or prehistoric site or object) be found during construction and/or maintenance activities on public or federal land, the BLM Phoenix Field Office archaeologist will be notified immediately. All work will cease until an evaluation of the discovery is made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values.

Maintenance will include camouflage of above-ground surfaces (except the pipe-rail fence) with paint, rocks and/or other acceptable medium. Excavated soil and rock will be used to bury and camouflage above-ground structures. Disturbed surfaces will be contoured and returned to as natural a condition as possible.

Maintenance activities will occur primarily during the weekdays to minimize disturbance to weekend wilderness and monument visitors.

Maintenance activities will occur outside the breeding season of the cactus ferruginous pygmy-owl (Jan 1 - June 30).

If any desert tortoises are encountered while traveling to and from, or at the site, they will be avoided. If a desert tortoise is observed within the project area, it will be removed by Department personnel in accordance with the Arizona Game and Fish Department handling guidelines for Sonoran desert tortoises.

Vehicle use will be restricted to existing roads and routes.

Firewood will not be cut within the Sonoran Desert National Monument. All firewood must be brought in from outside the monument.

INTRODUCTION

The Sonoran Desert National Monument was designated by Presidential Proclamation, January 17, 2001. Three wildernesses are found within the Monument boundaries; they are the Table Top Mountains, North Maricopa Mountains and South Maricopa Mountains wildernesses. The purpose of and need for maintenance of wildlife water catchments within these wildernesses, was analyzed and approved in the Maricopa Complex Wilderness Management Plan (WMP) Environmental Assessment and Decision Record (EA/DR) (BLM 1995), but the presence of these catchments requires analysis as part of the National Landscape Conservation (monument) System. Eight catchments were not addressed by the Maricopa Complex WMP, as they were outside the wildernesses, but still occur within the monument. An additional 8 catchments were addressed by the WMP, but have not been maintained, as yet. Seven catchments were improved, prior to monument designation, under the Maricopa Complex WMP (See Table 1). Further information can be found in the Maricopa Complex WMP, EA/DR (BLM 1995). This Environmental Assessment will analyze the need to improve the functional condition of these wildlife waters within the Sonoran Desert National Monument.

Need for the Proposed Action

Six wildlife water catchments proposed for maintenance (see map for locations) are in the North Maricopa Mountains, one of which is within the North Maricopa Mountains Wilderness. Four catchments are in the Table Top Mountains (two in the Table Top Mountains Wilderness) and six catchments are within the region referred to as Area A - formerly within the Barry M. Goldwater Air Force Range; all are within the Sonoran Desert National Monument. These are existing catchments upon which numerous wildlife species have come to depend. However, the small capacities and outdated designs require frequent monitoring and expensive water hauling trips (many into the wilderness areas) to ensure sufficient water remains available for the wildlife that depend upon them. Forty mechanized water hauling incursions into wilderness to resupply these catchments have occurred since 1990.

These water catchments have been used for over 40 years by wildlife species such as, desert bighorn sheep (*Ovis canadensis mexicana*), desert mule deer (*Odocoileus hemionus crooki*), javelina (*Dicotyles tajacu*), gray foxes (*Urocyon cinereoargenteus*), badgers (*Taxidea taxa*), various bat species, coyotes (*Canis latrans*), Gambel's quail (*Callipepla gambelii*), doves (*Zenaida* spp.), and other wildlife species. By increasing the storage capacity of these catchments, they will continue to provide important, permanent water sources for the numerous wildlife species in the area, while reducing expensive water hauling trips and vehicle incursions into these wilderness areas and within the monument (Hanson and Mahoney, 2001). Water hauling records from the Arizona Game and Fish Department (AGFD) indicate these catchments must be filled as many as 3 times throughout the summer, and more often during drought conditions (AGFD unpubl. data).

Conformance with Land Use Plans

The proposed action is in conformance with the Lower Gila South Resource Management Plan/Environmental Impact Statement (RMP/EIS) and Bureau policy regarding wildlife management. Applicable Land Use Plan decisions (Lower Gila South RMP/EIS) related to the proposed maintenance of these catchments may be found in Appendix 1.

Relationship to Statutes, Regulations, and Other Plans

These catchments were originally constructed prior to enactment of the National Environmental Policy Act (NEPA 1969) therefore, no impacts analyses of many of these projects had occurred, until preparation of the Maricopa Complex WMP, EA/DR (BLM 1995). This Environmental Analysis will bring these other maintenance projects into compliance. This action complies with BLM's Fish and Wildlife 2000 Strategy described in "Big Game Habitat Management" (BLM 1993) and "Mountain Sheep Ecosystem Management Strategy for the 11 Western States and Alaska" (BLM 1995). The improvements conform to the Lower Gila South Habitat Management Plan (BLM 1990), the Maricopa Complex WMP, EA/DR (BLM 1995), and to the Interim Management Policy for Bureau of Land Management National Monuments and National Conservation Areas (IM-2002-008). The Sonoran Desert National Monument Proclamation does not diminish the jurisdiction of the State of Arizona with respect to fish and wildlife management. Applicable planning decisions may be found in Appendix 1.

PROPOSED ACTION AND ALTERNATIVES

Proposed Action

The Arizona Game and Fish Department, in cooperation with the Bureau of Land Management (BLM), proposes to maintain and increase the storage capacity on sixteen wildlife water catchments in the Sonoran Desert National Monument. Five catchments (#446, #449, #450, #451, #452, #453) are in the North Maricopa Mountains (see map and Table 1 for locations and legal descriptions). Two catchments are within the Table Top Mountains Wilderness (#554, #705), with 2 catchments bordering the wilderness (#691, #555). The remaining 5 catchments (#396, #397, #433, #501, #502, and #792) are within the Sand Tank Mountains region formerly referred to as "Area A". "Area A", previously a portion of the Barry M. Goldwater Air Force Range, was not renewed for withdrawal in the Military Lands Withdrawal Act of 1999, and the lands reverted fully to BLM. The improvements to many of these catchments was discussed in the Maricopa Complex Wilderness Management Plan, Environmental Assessment and Decision Record (BLM 1995).

The catchments are of various configurations but generally hold approximately 3,000 gallons of water. The catchments will be modified to hold approximately 10,000 gallons of water, about three times their current capacity.

All catchments are currently surrounded by barbed wire fencing. This fencing will be removed and, if necessary, replaced with 1/2" black pipe-rail fencing, facilitating mule deer and bighorn sheep access/egress to the catchments. The need for pipe-rail fencing will be analyzed on a case-by-case basis. If deemed unnecessary, the existing fence(s) will be removed and not replaced. If deemed necessary, the pipe rail will not be painted but will be allowed to oxidize naturally. Any corner braces will be painted to make the fence as unobtrusive as possible. The catchments will be constructed in a way as to blend with the surrounding area. Components will be buried, whenever possible. The use of natural and/or materials pigmented to the surrounding area will be used to camouflage the catchments.

The use of electrical equipment such as, generators, compressors, power saws, pipe threaders, cutting torches, arc welders, cement mixers, etc., will be necessary for the expeditious and safe accomplishment of these projects. The use of mechanical equipment such as pick-up trucks, front end loaders, back hoes, dump trucks, water trucks, flat bed trucks and possibly helicopters, may be necessary to carry materials essential for maintenance of these projects. All unused materials and debris accumulated as a result of these projects will be removed and properly disposed of upon completion of each project. It will be necessary to fill each system prior to burying the components to ensure the systems are functioning properly.

The Maricopa Complex WMP EA/DR (BLM 1995) includes an explanation of the need for and use of equipment involved. Travel to and from the sites will be by existing routes. Some routes, if deemed no longer necessary, may be ripped or allowed to rehabilitate naturally. Any further construction activities within the existing footprint of these sites, will be considered maintenance and will be covered under this environmental analysis. Maintenance activities will occur as time and funding permits.

Because of differing site conditions and locations, work may include:

installation of larger storage tanks, walk-in troughs, new, or extensions of existing apron(s), pipelines of various lengths, and small check dams. In addition, some road improvement work may be needed to facilitate movement of equipment into the catchment sites. Road improvement work will consist mainly of improving wash crossings, or improving eroded areas sufficiently to drive equipment into the sites. In the event a road requires substantial repair, the use of helicopters to fly equipment into the site(s) will be permitted. These modifications will provide more dependable sources of water for wildlife, as well as eliminate the need for hauling water to fill the catchments. These activities were addressed in the Maricopa Complex WMP, EA/ DR (BLM 1995, pages 33, 45 and 84-86).

Surface and vegetation disturbance will be kept to a minimum and will be 1 acre or less per site. No saguaro cactus will be disturbed or removed. Any other cacti removed will be transplanted back on-site following completion of the project. Firewood, for maintenance crews, will be brought in from outside the monument to avoid disturbance to or removal of vegetation in potential cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) habitat. Disturbed areas will be contoured and returned to as natural a condition as possible. All above-ground structures (except the pipe-rail fence) will be painted or concealed to blend in with the surrounding terrain. Construction activities will occur primarily during weekdays to

reduce disturbance to wilderness and monument visitors.

ALTERNATIVES

No Action Alternative

Under the No Action Alternative, the catchments would not be maintained. The wildlife in the area would continue to utilize the existing catchments and the Arizona Game and Fish Department would continue to haul water to these catchments, including those in wilderness.

AFFECTED ENVIRONMENT

The Sonoran Desert National Monument was designated on January 17, 2001. The monument is approximately 495,897 acres in size. The monument was established because of its "extraordinary array of biological, scientific, and historic resources" (Presidential Proclamation). The monument contains diverse plant communities that support a wide variety of wildlife species and contains many significant archaeological and historic sites.

The northern boundary of the Sonoran Desert National Monument is located approximately 9 miles south of Buckeye, Maricopa County, Arizona. The monument contains 3 wilderness areas; the North Maricopa Mountains Wilderness; The South Maricopa Mountains Wilderness; and the Table Top Wilderness. In addition, a portion of the Sand Tank Mountains, known as Area A, was relinquished by the Air Force. Information on the North and South Maricopa Mountains and the Table Top Mountains may be found in the Maricopa Complex WMP, EA/DR (BLM 1995). The Sand Tank Mountains are located approximately 10 miles southeast of Gila Bend, Maricopa County, Arizona.

The vegetation in the vicinity of the catchments is characterized as either the lower Colorado River Valley subdivision, or the Arizona Upland subdivision, of the Sonoran Desert Biome (Brown 1982). Major vegetative components include creosote bush (*Larrea tridentata*), triangle-leaf bursage (*Ambrosia tridentata*), white bursage (*A. dumosa*), little leaf palo verde (*Parkinsonia microphyllum*), foothills palo verde (*P. floridum*), ironwood (*Olneya tesota*), mesquite (*Prosopis juliflora*), and saguaro (*Carnegiea gigantea*).

Wildlife occurring throughout the area include mule deer, coyotes, gray foxes, javelina, badgers, Gambel's quail, doves, various bat species, desert tortoises, Gila monsters (*Heloderma suspectum*), and other non-game species. Bighorn sheep are found in the more mountainous areas.

The catchments are within historic range for the endangered cactus ferruginous pygmy-owl and the lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*) and suitable or potential habitat exists around some of the catchments. The habitat surrounding the catchments will be evaluated prior to conducting any maintenance activities. There is no suitable habitat for cactus ferruginous pygmy-owls in the vicinity of catchment #452.

The Sonoran Desert National Monument receives recreation use from hunters, sightseers, horse-back riders, OHV users, hikers and campers. Three wildernesses occur within the monument for those visitors wanting solitude. Water has been hauled to catchments inside wilderness on 40 occasions since 1990.

The wildernesses and Area A have a Visual Resources Management (VRM) I classification. The objective of this classification is to preserve the existing character of the landscape. The area around catchments #449 and #452 has a VRM III classification. The objective of this classification is to maintain the existing characteristic of the landscape. The Sonoran Desert National Monument was established to protect the biological, historical, and archaeological resources, including plant communities and diversity of wildlife species.

ENVIRONMENTAL IMPACTS

Impacts of the Proposed Action

The following resources have been analyzed and are either not present or will not be impacted by the

Proposed Action.

- 1) Water Quality
- 2) Riparian or Wetland Zones
- 3) Wild and Scenic Rivers
- 4) Hazardous or Solid Waste
- 5) Prime or Unique Farmland
- 6) Areas of Critical Environmental Concern Designation
- 7) Flood Plains
- 8) Native American Religious Concerns
- 9) Environmental Justice in Minority and/or Lower Income Populations
- 10) Energy

Sonoran Desert National Monument (SDNM)

The Sonoran Desert National Monument was designated on January 17, 2001. These catchments have been in place and used by wildlife since 1957. Maintenance of the catchments will have no appreciable effect on monument values because the footprint of the catchments will remain inside the existing exclosures. Maintenance activities will reduce or eliminate water-hauling trips into the monument and wildernesses, to fill the catchments.

Vegetation

Under the Proposed Action some vegetation may be removed or destroyed in order to properly place the aprons, drinkers, storage tanks and fences. Trimming or removal of vegetation will be limited to the extent practicable to construct the proposed projects. No saguaro cactus will be removed or disturbed under the Proposed Action. If other cacti species are removed they will be replanted on site or in the immediate vicinity of the projects.

Soil

Under the Proposed Action, over the short-term, soil disturbance would occur as a result of maintenance activities. Over the long-term, routes leading into the wildernesses would be allowed to rehabilitate and revegetate because vehicles would no longer be utilizing them to haul water to the catchments.

Air Quality

Air quality will be slightly affected in the short-term due to excavation activities at the catchment sites. The increase in particulate matter will be of short duration (2-3 days/site), but will not substantially affect air quality.

Noxious or Invasive Weeds

Sahara mustard (*Brassica tournefortii*) and buffelgrass (*Pennisetum ciliare*) are known to occur in fallow agricultural fields along Highway 85 and Interstate 8. Seeds from these plants could be picked up in the tires and undercarriage of vehicles traveling to the sites. There are no indications these weeds are spreading into the wildernesses or the Monument.

Range Management/Standards for Rangeland Heath

These catchments have been in place for at least 40 years. The original design of each catchment included barbed wire fencing surrounding each development to prevent livestock use of the water and vegetation within the exclosure. However, the current design was not always successful in preventing livestock use. Installation of pipe rail fencing surrounding each development, as needed, will prevent the use and draining of these catchments by livestock, and in some cases, eliminate the need for fence maintenance.

Each grazing allotment within the monument will be evaluated by 2007, to ensure they are meeting the Arizona Standards for Rangeland Heath and Guidelines for Grazing Administration (BLM 1996). If standards are not being met, whether from livestock or wildlife use, changes in use will be implemented. Livestock use south of Interstate 8 will be abolished when the current grazing leases expire in 2007. Therefore, the need for fencing the catchments in this area, may not be necessary. Grazing activities on

Federal lands north of Interstate 8, within the monument, can continue as long as grazing is compatible with the biological diversity, and the historical and archaeological objects identified in the proclamation

Wilderness

Over the long-term, water hauling to catchments within the Table Top Wilderness will be curtailed or ended. Two water hauling routes in this wilderness will be allowed to reclaim through mechanical or natural means. Over the short-term, noise associated with maintenance of the catchments may disrupt some visitors' wilderness experience. Those persons wishing to experience solitude and primitive recreational activities may be disturbed by the use of motorized and mechanized equipment within the wildernesses. Most construction work will occur during the week to minimize impacts to weekend visitors. Naturalness or natural conditions will be temporarily impaired at the catchment sites and along access routes, due to soil disturbances, vegetation removal or damage, and tracks from vehicles and heavy equipment.

Visual Resources Management (VRM)

Over the long-term, there will be minimal impact on visual resources. The "footprint" of the catchments will remain essentially the same as it is now. Visual resources will be affected mainly over the short term, during the construction phase. Extensive efforts will be made to make the catchments as inconspicuous as possible. Camouflage techniques will be used, at each site, to reduce the visual impact of the catchments. Repair of the catchments will follow the guidelines for a Class I visual resources management area. All maintenance activities will be conducted by burying, using native materials, or by painting or coloring components in such a fashion that the improved catchments would, at a minimum, be no more noticeable than the existing catchments. In addition, the need for enclosure fencing will be analyzed at each site. If fencing is deemed unnecessary, the fencing will be removed and disposed of properly.

Recreation

Visitors to the monument may be temporarily disturbed by the human activity and noise resulting from maintenance activities. However, the improvements will retain and possibly enhance wildlife viewing and hunting opportunities in the area.

Cultural Resources

Cultural surveys have been conducted on 6 of the existing catchments. No cultural resources will be affected by modifications of these catchments. Cultural surveys must still be conducted on 8 of the existing catchments prior to any additional work being performed. Should any cultural resources be located at these sites, the maintenance activities will be modified to avoid these resources. If the resources can not be avoided or mitigated, those catchments will not be improved.

Threatened and Endangered Species

Maintenance activities will occur outside the time the lesser long-nosed bat may occur in the area. No saguaro cacti will be disturbed or removed by these activities, therefore, there will be no effect to the lesser long-nosed bat or its foraging habitat. Suitable or potential habitat for the cactus ferruginous pygmy-owl occurs around many of the existing catchments, except #452. Modifications will occur outside the breeding season for cactus ferruginous pygmy-owls. There will be no disturbance to saguaro cacti, and no woodcutting will be permitted within the monument by maintenance crews, therefore the Proposed Action will have no effect on the species or its habitat.

Wildlife

Wildlife in the area will benefit from catchment modifications by continuing to have dependable water sources, especially during the hot, summer months. Wildlife may be temporarily displaced from the project areas during maintenance activities. Increased human presence and noise associated with catchment maintenance could have a negative short-term impact on wildlife. Improvements are planned for the time of year when wildlife are less dependent upon the catchments for water (i.e., outside the

summer months). Modification of each catchment will take from 15 to 30 days to complete.

All maintenance activities, except #449 and #452, are within either Category I or Category II desert tortoise habitat. These catchments are outside categorized desert tortoise habitat, however tortoises could occasionally wander into the area to forage. A search of six of the proposed project sites did not indicate the presence of tortoises, or tortoise burrows. Additional tortoise surveys will be conducted around the remaining ten catchments prior to maintenance activities. Since this proposal consists of maintenance of existing catchments, it will not alter how wildlife use the area. Therefore, the Proposed Action is not expected to negatively impact desert tortoises or other special status species that may occur in the area.

Artificial Waters and Wildlife Populations

Water has always been a natural component of the ecosystem, whether from the natural filling of tinajas by precipitation events, or the presence of springs, and perennial rivers such as the Gila River and the Rio Sonoyta. However, with the advent of human occupation, development and other system-altering activities, such as water diversions, ground water pumping, road and interstate highway construction, and livestock grazing, wildlife had to alter the way they moved to find water. Because wildlife access to perennial water had changed, the Arizona Game and Fish Department initiated a wildlife watering program, first in the form of game bird guzzlers, then modified to provide water for wildlife, in general (Ballard et al. 1998). Providing artificial waters is considered one method of mitigating impacts while sustaining wildlife populations (Wright 1959).

The premise surrounding the need to supply artificial water is that water is thought to be a limiting factor affecting reproduction, survival and distribution of many wildlife species (Ballard et al. 1998). Theoretically, once this limiting factor is satisfied, wildlife populations should respond with expanded distributions, increased productivity, reduced mortality, increased fitness or reduced movement (Ballard et al. 1998).

The need to provide artificial water for wildlife is controversial, at best. There is a paucity of information in the literature, regarding the direct influence of artificial waters on wildlife populations. Burkett and Thompson (1994), in a study in New Mexico, found no difference in vegetative communities, detection of small mammal taxa, wildlife species richness, nor increases in wildlife populations between areas with artificial waters and those without. Brown (1998) provides anecdotal information to indicate that water developments do not increase wildlife populations, and are therefore, unnecessary. Broyles (1995) contends that providing water to wildlife artificially inflates wildlife populations, increases the spread of diseases within and between wildlife populations, and enhances predator populations by concentrating predators at waters. He believes that more research should be conducted prior to supplying artificial water to wildlife. An additional concern expressed is the proliferation of feral European honey bees at artificial watering sites.

There is documented evidence that individual animals and small populations of desert bighorn sheep have survived without access to free-standing water (Krausman et al. 1985, Krausman and Czech 1998). However, there is evidence to the contrary, that productivity is enhanced when water is added to dry habitat (Smith and Krausman 1988). In Nevada, for example, the River Mountain herd increased significantly when free-standing water was added to the habitat (Leslie and Douglas 1979). In the event that bighorn herds survive without free-standing, or artificial water, it has been suggested that sufficient moisture is obtained by foraging on succulent plants (McCarty and Bailey 1994).

Bristow, et al. (1996) found that bighorn sheep in the Silverbell Mountains, consistently selected for steep rugged terrain, with high quality vegetation, in close proximity to permanent water. However, these waters were located near steep terrain, therefore the authors were uncertain whether the sheep selected these sites due to the presence of water, or because of the terrain. Bristow (1998) observed that proximity to perennial water was important to bighorn ewes in the Silverbell Mountains, during the summer months, but was less important than vegetation or topography at other times of the year. He also found that those waters played an important social function within the population, as mature rams and ewes were reunited following the separation due to the previous years' lambing season.

Maghini and Smith (1990) in a study of diurnal ranges of Coues white-tailed deer, recommend ensuring that free water is available during the summer months. Rautenstrauch and Krausman (1989) in a study of desert mule deer in southwestern Arizona, reported that during the summer dry season, deer either moved to areas with permanent water or restricted their movements to portions of home ranges containing permanent water.

Habitat utilization and population distribution can be influenced with water developments allowing a greater diversity of forage use. During periods of extended drought, the resultant decline in desert wildlife populations due to nutritional deficiencies may be lessened by the availability of free-standing water. Desert bighorn sheep and other ungulates may be able to consume a greater variety of forage and drier plants if free-standing water is available. Artificial water, such as developments, allow for a greater selection of forage items, thus reducing, but not eliminating the influence of nutrition as a limiting factor in desert bighorn sheep populations. In many cases, the presence of desert ungulates is closely tied to water availability (Ballard et al. 1998).

Development of these water sources only influences wildlife populations to the extent that these populations are limited by the availability of free-standing water. The idea that water developments can cause populations to increase to levels that cause excessive use of limited food resources is not supported by the literature. These catchments have been in place for at least 40 years. Generations of wildlife have come to depend on these established systems because access to, and the ability of, wildlife to water at natural perennial water sources have been removed by man's activities. If localized ecological conditions were altered as a result of catchment installation, then removal of these systems would also be expected to negatively affect these ecological conditions. Improvements to these catchments will not further enhance or adversely impact wildlife populations since no new water sources will be provided. The existing sources are permanent, since the AGFD keeps catchments supplied in dry periods. To date, the apparent benefits to wildlife from artificial waters in the ecosystem seem to outweigh any potential or perceived negative impacts. The Arizona Game and Fish Department is conducting additional studies designed to answer questions directly related to wildlife populations and the presence of artificial waters (deVos et al. 1998, Ballard et al. 1998).

Predators

Predators (foxes, mountain lions, coyotes, ringtails (*Bassariscus astutus*), and bobcats (*Lynx rufus*)) are common in the North and South Maricopa, Table Top, and Sand Tank mountains. Kit foxes (*Vulpes macrotis*) are distributed independent of free-standing water (Golightly and Ohmart 1984); therefore, their distribution and abundance may be influenced by, but not dependent on, water. Bobcats and other predators may use artificial water, but are likely to obtain their water requirements from their prey (Chevalier 1984, Cutler 1996). Little physiological work exists for coyotes, although they are frequently observed great distances from available water. Golightly and Ohmart (1984) concluded that coyotes consumed more prey (thereby using pre-formed water - water that is available in succulent plant or animal tissues) when free water was unavailable. In general, it appears that these predator populations are independent of water.

Although it is possible to find mountain lions in the project area, their population density is unknown. These large predators must cover extensive areas to maintain their existence. The water requirements of this species and the consequences of water developments are not clear. Lions may take prey near water developments, under certain conditions, such as areas with thick cover and/or nearby rock ledges. In general, predators do not control prey species; in fact the opposite is generally true. Predators would appear to benefit only secondarily from increased water availability. The AGFD wildlife manager for the Sonoran Desert National Monument and surrounding area inspects over 70 wildlife water catchments in his district every month during the summer and conducts maintenance checks during the winter months. In seven years, he has discovered only 6 carcasses near catchments, related to predator kills (Dan Urquidez, AGFD, pers. comm.). The catchments in the SDNM are located in areas, not conducive to ambush, which would minimize a predator's advantage. The improvements to the catchments would likely have little to no effect on the population levels of coyotes, foxes, non-game mammals, or non-game birds based on investigations conducted by Burkett and Thompson (1994).

Disease

Prevention of disease may best be accomplished by maintaining a healthy ecosystem. Minimizing stresses from overcrowding, poor nutrition, drought, competition from other ungulates (native or introduced), harassment by humans during critical periods, and fragmentation of habitat provides a positive approach to disease control (Smith and Krausman 1988).

Disease can be spread within a population through contact with sick animals at a water source. As with predator traps, this is more likely to happen when water is limited and animals are forced to concentrate. By increasing the number of available water sources, the likelihood of concentrating large numbers of animals is decreased. With better distribution, as a result of water developments, disease transmission is

less likely to result in catastrophic die-offs.

The *Culicoides* biting midge has been identified as a possible carrier of blue tongue and epizootic hemorrhagic disease (EHD), two closely related viral diseases that may seriously affect wildlife populations. Livestock, deer, bighorn sheep, pronghorn, and other animals, may act as its host. However, spread of HD from deer to livestock or vice versa has not been proven (Beheler 2001). The female midge requires a blood meal to develop its eggs, which she lays in water, moist soil, rotting vegetation, or other moist habitats (Anderson and Oi, 1997). Concrete vault water sources, like those present at water catchments, most likely do not provide the substrate necessary for the biting midge to fulfill its life cycle. Earthen stock tanks may provide a better substrate for the proliferation of this species. Although not routinely tested for, several deer appear to have succumbed to disease. Sonoran pronghorn (currently not an inhabitant of the Sonoran Desert National Monument) captured on the Barry M. Goldwater Range and the Cabeza Prieta National Wildlife Refuge, have tested positive for either bluetongue or EHD (John Hervert, AGFD, pers. comm).

Wildlife contracting disease from domestic livestock should not be a problem at wildlife water catchments. Wildlife will not ordinarily come in contact with domestic livestock watering at the facilities as all catchments currently have fencing surrounding them. Pipe-rail fencing will be used to replace existing barbed-wire fences, when necessary. Pipe-rail fences serve dual purposes: to prevent entanglement of wildlife jumping over the fence into the enclosure and to exclude livestock from the developments.

Bees

European honey bees would likely continue to make use of the existing developments just as they do with any water source (including temporary rainwater puddles) in the area. Feral European honey bees are already well established in Arizona. There is no evidence of Africanized honey bees residing in the monument.

Energy

The Proposed Action will have no affect on the President's Energy Policy

IMPACTS OF THE NO ACTION ALTERNATIVE

Sonoran Desert National Monument (SDNM)

Under the No Action Alternative, water would continue to be hauled in to fill the catchments on an as-needed basis. The footprint of the catchments will remain the same within the existing enclosures. Water hauling to the catchments will continue, as needed.

Vegetation

Under the No Action Alternative, vegetation would not be disturbed or relocated because the catchments would not be improved.

Soil

Under the No Action Alternative, soil disturbance would continue to occur. Routes into the wildernesses could not be ripped nor would they be able to revegetate or rehabilitate because vehicles would continue to utilize these routes to haul water into the catchments.

Air Quality

Under the No Action Alternative, air quality would continue to be affected because of dust stirred up by the water trucks traveling to replenish the catchments. This affect would be of short duration lasting only a few hours/trip.

Noxious or Invasive Weeds

Impacts from noxious or invasive weeds would be similar under the No Action Alternative as under the

Proposed Action. Seeds from noxious or invasive weeds could be transported on the tires or under carriage of vehicles traveling from site to site. The potential to spread seeds could occur more frequently under the No Action Alternative since water hauling would continue to occur.

Range Management/Standards for Rangeland Health

Under the No Action Alternative, impacts from livestock will be the same as those described under the Proposed Action. Each grazing allotment within the monument will be evaluated by 2007, to ensure they are meeting rangeland health standards. If standards are not being met, whether from livestock or wildlife use, changes in use will be implemented. Livestock use south of I-8 will be abolished when the current grazing leases expire in 2007. Grazing activities on Federal lands north of Interstate 8, within the monument, can continue as long as grazing is compatible with the biological diversity, and the historical and archaeological objects identified in the proclamation

Wilderness

Under the No Action Alternative, water hauling impacts on wilderness values like solitude and primitive recreation would continue over the long-term. The sights and sounds of mechanized water hauling activities would temporarily impair or lessen the solitude and wilderness-caliber recreation opportunities in two areas of the Table Top Wilderness and one area of the North Maricopa Mountains Wilderness. Impacts would be temporary, lasting one day, but would continue over the long-term. Two vehicle routes within the Table Top Wilderness and one route in the North Maricopa Mountains Wilderness could not be restored or reclaimed.

Visual Resources Management (VRM)

Under the No Action Alternative, visual resources would not be changed. The existing catchments would remain in place.

Recreation

Under the No Action Alternative, visitors to the area would not be disturbed by noise and human activity associated with maintenance activities. The sights and sounds of mechanized water hauling activities would temporarily impair opportunities for solitude in parts of the Table Top and North Maricopa wildernesses. Wildlife viewing and hunting opportunities would remain, as present.

Cultural Resources

Under the No Action Alternative, cultural resources would not be affected, because improvements to the catchments would not occur.

Threatened and Endangered Species

No habitats of threatened, endangered, or candidate species would be affected under the No Action Alternative because the catchments would not be improved. Vehicle intrusions, to fill the catchments, could occur during the breeding season of the cactus ferruginous pygmy-owl, possibly causing temporary disturbances. Disturbance would be short-term lasting approximately 1-2 hours/filling. There would be no affect on the lesser long-nosed bat.

Wildlife

Under the No Action Alternative, wildlife would not be disturbed by human presence or noise associated with the maintenance activities. The catchments would continue to be monitored and water hauled on an as-needed basis, possibly disturbing wildlife more frequently and during the period of greatest stress to the animals. Disturbance would be short-term lasting approximately 1-2 hours/filling.

Under the No Action Alternative, there would be no impact to desert tortoises.

Artificial Waters and Wildlife Populations

Under the No Action Alternative, impacts to wildlife from the presence of artificial waters will be the same

as those identified under the Proposed Action.

Predators

Under the No Action Alternative, impacts to wildlife from predators will be the same as those identified under the Proposed Action.

Bees

Under the No Action Alternative, impacts from European honey bees would be the same as that analyzed under the Proposed Action. There is no evidence of Africanized bees residing in the monument.

Energy

Under the No Action Alternative there will be no affect on the President's Energy Policy.

MITIGATION MEASURES

1. A copy of BLM stipulations will be issued to all supervisors, crew chiefs, etc., involved in the actual construction phase of the proposed improvements.
2. The Arizona Game and Fish Department will submit an amendment to the Phoenix Field Office for review and approval prior to any deviation from the approved action.
3. Should any archaeological artifacts (historic or prehistoric site or object) be found during construction and/or maintenance activities on public or federal land, the BLM Phoenix Field Office archaeologist will be notified immediately. All work will cease until an evaluation of the discovery is made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values.
4. Maintenance will include camouflage of above-ground surfaces (except the pipe-rail fence) with paint, rocks and/or other acceptable medium. Excavated soil and rock will be used to bury and camouflage above-ground structures. Disturbed surfaces will be contoured and returned to as natural a condition as possible.
5. Maintenance activities will occur primarily during the weekdays to minimize disturbance to weekend wilderness and monument visitors.
6. Maintenance activities will occur outside the breeding season of the cactus ferruginous pygmy-owl (Jan. 1 - June 30).
7. If any desert tortoises are encountered while traveling to and from, or at the site, they will be avoided. If a desert tortoise is observed within the project area, it will be removed by Department personnel in accordance with the Arizona Game and Fish Department handling guidelines for Sonoran desert tortoises.
8. Vehicle use will be restricted to existing roads and routes.
9. Firewood will not be cut within the Sonoran Desert National Monument. All firewood must be brought in from outside the monument.

RESIDUAL IMPACTS

Residual impacts associated with the proposed action will consist of fiberglass or steel storage tanks, metal, fiberglass, or concrete aprons, walk-in troughs, pipe-rail fence exclosures, pipe-lines, and check dams.

CUMULATIVE IMPACTS

Maintenance activities would reduce the number of vehicle intrusions into the monument to fill the catchments.

CONSULTATION AND COORDINATION

Persons and Agencies Contacted

Cheryl Blanchard, Archaeologist, Bureau of Land Management, Phoenix Field Office
Mike Brown, Acting Sonoran Desert Monument Manager, Bureau of Land Management, Phoenix Field Office
Ron Christofferson, Habitat Enhancement Supervisor, Development Branch, Arizona Game and Fish Department, Phoenix, Arizona
Phil Cooley, Rangeland Management Specialist, Bureau of Land Management, Phoenix Field Office
Gene Dahlem, Resource Advisor, Bureau of Land Management, Phoenix Field Office
Bill Gibson, Planning and Environmental Coordinator, Bureau of Land Management, Arizona State Office
Rich Hanson, Team Lead, Outdoor Recreation Planner, Bureau of Land Management, Phoenix Field Office
Bob Henry, Big Game Specialist, Arizona Game and Fish Department, Region IV, Yuma, Arizona
John Hervert, Wildlife Program Manager, Arizona Game and Fish Department, Region IV, Yuma, Arizona
J. David Hoerath, Wildlife Biologist, formerly with Bureau of Land Management, Phoenix Field Office
Tim Hughes, Team Lead, Wildlife Biologist, Bureau of Land Management, Phoenix Field Office
Karen Kelleher, SDNM Planning and Environmental Coordinator, Bureau of Land Management, Phoenix Field Office
Dan Urquidez, Wildlife Manager, Arizona Game and Fish Department, Region IV, Yuma, Arizona

Literature Cited

- Anderson, R.A. and F.M. Oi. Biting midges. July 7, 1997. Alabama Cooperative Extension Service. <http://www.aces.edu/departments/ipm/bitingmidges.htm>. October 9, 2001.
- Arizona Game and Fish Department. 1997. Wildlife water developments in Arizona: A technical review. Phoenix, Arizona. 73 pp.
- Ballard, W. B., S.S. Rosenstock, and J.C. deVos, Jr. 1998. The effects of artificial water developments on ungulates and large carnivores in the southwest. Pages 65-105 *in* Environmental economic, and legal issues related to rangeland water developments: Proceedings of a symposium. 13-5 November 1997, Tempe, Arizona. Arizona State University College of Law.
- Beheler, K. Hemorrhagic disease of deer. February 19, 2001. Wisconsin Department of Natural Resources. <http://www.dnr.state.wi.us/org/land/wildlife/wheath/issues/hemorrhagic.htm>. October 9, 2001.
- Bristow, K.D., J.A. Wennerlund, R. E. Schweinsburg, R. J. Olding, and R.E. Lee. 1996. Habitat use and movements of desert bighorn sheep near the Silver Bell Mine, Arizona. A Final Report. Ariz. Game and Fish Dep. Tech. Rep. 27, Phoenix. 57pp.
- Bristow, K.D. 1998. Habitat use of desert bighorn sheep near perennial water sources in the Silver Bell Mountains, Arizona. Pages 106-125 *in* Environmental economic, and legal issues related to rangeland water developments: Proceedings of a symposium. 13-5 November 1997, Tempe, Arizona. Arizona State University College of Law.
- Brown, D. E. 1998. Water for wildlife: belief before science. Pages 9-16 *in* Environmental economic, and legal issues related to rangeland water developments: Proceedings of a symposium. 13-5 November 1997, Tempe, Arizona. Arizona State University College of Law.
- Broyles, B. 1995. Desert wildlife water developments: questioning use in the Southwest. Wildl. Soc. Bull. 23:664-675.
- Broyles, B. and T. L. Cutler. 1999. Effect of surface water on desert bighorn sheep in the Cabeza Prieta National Wildlife Refuge, southwestern Arizona. Wildl. Soc. Bull. 27(4):1082-1088.
- Burkett, D.W., and B. C. Thompson. 1994. Wildlife association with human-altered water sources in semi-arid vegetation communities. Conservation Biology 8:682-690.

- Chevalier, C.D. 1984. Water requirements of free-ranging and captive ringtail cats (*Bassariscus astutus*) in the Sonoran desert. M. Sc. Thesis. Arizona State University, Tempe. 98 pp.
- Cutler, T.L. 1996. Wildlife use of two artificial water developments on the Cabeza Prieta National Wildlife Refuge, southwestern Arizona. M. Sc. Thesis, Univ. Arizona, Tucson. 144 pp.
- deVos, J.C. Jr., W.B. Ballard, and S.S. Rosenstock. 1998. Research design considerations to evaluate efficacy of wildlife water developments. Pages 606-612 *in* Environmental, economic, and legal issues related to rangeland water developments: Proceedings of a symposium. 13-15 November 1997, Tempe, Arizona. Arizona State University College of Law.
- Golightly, R.T., Jr., and R.D. Ohmart. 1984. Water economy of two desert canids: coyote and kit fox. *J. Mammal.* 65:51-58.
- Hanson, R., and J. Mahoney. 2001. Restoring old roads and maintaining water for wildlife in the BLM Maricopa complex wilderness in Arizona. *Int'l. Jour. Wilderness.* 7(3):27-29.
- Krausman, P.R., S. Torres, L.L. Ordway, J.J. Herver, and M. Brown. 1985. Diel activity of ewes in the Little Harquahala Mountains, Arizona. *Desert Bighorn Counc. Trans.* 29-24-26.
- Kausman, P.R. and B. Czech. 1998. Water developments and desert ungulates. Pages 138-154 *in* Environmental economic, and legal issues related to rangeland water developments: Proceedings of a symposium. 13-5 November 1997, Tempe, Arizona. Arizona State University College of Law.
- Leslie, D.M. Jr., and C.L. Douglas. 1979. Desert bighorn sheep of the River Mountains, Nevada. *Wildl. Monogr.* No. 66. 56 pp.
- Rautenstrauch, K.R., and P.R. Krausman. 1989. Influence of water availability on movements of desert mule deer. *J. Mamm.* 70:197-201.
- Smith, N.S. and P.R. Krausman. 1988. Desert bighorn sheep: a guide to selected management practices. U.S.Dept. Interior, Fish and Wildl. Serv. Biol. Report 88(35). 27 pp.
- USDI - Bureau of Land Management. 1995. Maricopa Complex Wilderness Management Plan, Environmental Assessment and Decision Record. 132 pp.
- , 1995. Mountain sheep ecosystem strategy in the 11 western states and Alaska. 90 pp.
- USDI - Bureau of Land Management. 1996. Arizona Standards for Rangeland Health and Guidelines for Grazing Administration. 15 pp.
- Wright, J.T. 1959. Desert wildlife. *Wildl. Bull.* No. 6. Ariz. Fed. Aid in Wildl. Restor. Act, Proj. W-62-R. 78 pp.

Appendix 1. Land Use Plan Decisions as they relate to the maintenance of catchments within the Sonoran Desert National Monument.

**Interim Management Policy for Bureau of Land Management National Monuments and National Conservation Areas (IM 2002-008), 10/11/01
Sonoran Desert National Monument Presidential Proclamation (SDPP) 1/17/2001,
Memo from the Secretary of Interior to Director, BLM "Management of the Sonoran Desert National Monument" (SDMEMO) 1/19/2001
Lower Gila South RMP (1988)
Lower Gila South Resource Management Plan (Goldwater Amendment) (LGSRMPGA 1990)
Lower Gila South Habitat Management Plan (LGHMP 1990)
Maricopa Complex Wilderness Management Plan Environmental Assessment and Record of Decision (1995),**

A. Decisions from IM-2000-062, 10/11/2002, Interim Management Policy for Bureau of Land Management National Monuments and National Conservation Areas (IMP).

(A1 IMP) The State's responsibilities and authorities regarding wildlife management, including fishing and hunting, within the national conservation area or the monument are unaffected by legislation or the Proclamation.

(A2IMP) Maintain existing management policies, designations, and allocations except where changes are necessary to comply with the legislation or Proclamation and protect the objects of scientific and historic interest within the national conservation area or the monument

(A3 IMP) Coordinate with the local, State, Tribal, and other governmental entities (under existing agreements and any new arrangements deemed necessary) to disseminate and exchange information and cooperate in management actions, consistent with applicable legal authorities and other directives.

(A4 IMP) Assure the applications, proposals, and future use requests pending when the legislation or Proclamation was issued are subject to the terms of the legislation or Proclamation, including its recognition of valid existing rights, and other management directives and decisions relate to the national conservation area or monument.

(A5 IMP) In general, actions that are not precluded by the Proclamation or legislation and which do not conflict with the established purposes of the Monument may continue.

(A6 IMP) Maintenance of existing facilities should be permitted, subject to compliance with current policies and practices, provided monument resources are protected. Applications for new facilities may be considered, if they will protect or enhance monument resources

(A7 IMP) Existing noxious weed control activities should continue. Exotic species should not be introduced, unless doing so is essential to control noxious weeds or other undesirable species.

(A8 IMP) No areas in the national conservation area or monument should be authorized for cross-country, off-road vehicular use, except for authorized administrative and emergency purposes. For routes, including washes, where motorized and mechanical vehicular use has been authorized by past planning decisions, management discretion should be exercised where necessary, though emergency closures or other actions, to protect the national conservation area or monument resources. Wheeled game carriers are exempt.

(A9 IMP) Road improvements should be minimal and designed solely to correct those conditions that are unsafe or hazardous. Activities that maintain, as opposed to enhance, existing roads may be permissible.

(A10 IMP) Surface disturbance and reclamation activities under current permits should proceed consistent with those permits. Permit extensions will be considered subject to consistency with applicable policies, laws and proclamation.

(A11 IMP) Vegetation manipulation should proceed only when consistent with conservation and protection of the national conservation area or monument's resources. Chaining and other vegetation manipulation methods that cause substantial surface disturbance shall not be permitted.

B. Sonoran Desert National Monument Presidential Proclamation (SDPP), 1/17/2001.

(B1) SDPP. For the purpose of protecting the biological and archaeological resources, all motorized and

mechanized vehicle use off road will be prohibited, except for emergency or authorized administrative purposes. Nothing in this proclamation shall be deemed to enlarge or diminish the jurisdiction of the State of Arizona with respect to fish and wildlife management.

(B2) SDPP. The establishment of the Sonoran Desert National Monument is subject to valid existing rights.

(B3) SDPP. This proclamation does not reserve water as a matter of Federal law nor relinquish any water rights held by the Federal Government existing on this date. The Federal land management agencies shall work with appropriate State authorities to ensure that water resources needed for monument purposes are available.

(B4) SDPP. A management plan shall be prepared that addresses the action, including road closures or travel restrictions, necessary to protect the objects identified in this proclamation.

(B5) SDPP. Nothing in this proclamation shall be deemed to revoke any existing withdrawal, reservation, or appropriation; however, the national monument shall be the dominant reservation.

C. Memo from Secretary of Interior to Director, BLM "Management of the Sonoran Desert National Monument" (SDMEMO), 1/19/2001.

(C1) SDMEMO. Implement interim guidance for managing the Sonoran Desert National Monument.

(C2) SDMEMO. Review relevant management plans for the Monument to ensure consistency with the proclamation.

(C3) SDMEMO. Create an advisory council that will involve the local tribes and public in advising the monument manager regarding the management of the monument.

(C4) SDMEMO. Develop a management plan, including appropriate transportation planning, that addresses any actions necessary to protect the objects identified in the Proclamation. The Proclamation prohibits motorized and mechanized vehicle use off road, except for emergency or authorized administrative purposes.

(C5) SDMEMO. Management of the Monument should proceed in cooperation with local tribes for the overriding purpose of protecting the scientific historic objects in the Monument.

(C6) SDMEMO. In addition to Area A, the Sentinel Plains, will be relinquished by the Department of Defense to the BLM in November 2001. Although not in the monument, the area should be managed by BLM in a manner that will maintain and enhance its scientific and historic resources. Upon relinquishment, the BLM should evaluate this area under its land use planning procedures to determine how it should best be managed.

D. Decisions from the Lower Gila South Resource Management Plan (LGSRMP), 1988

(D1) LGSRMP page 10. During construction of rangeland developments, vehicles will use existing roads and trails wherever possible for access to sites. Where feasible or where no roads exist, vehicles will travel cross-country to avoid the need for road building. Where new roads must be built, roadbeds will be no wider than needed for reliable access; BLM specifications will also be used to reduce erosion and gulleying.

(D2) LGSRMP page 10. During construction of all rangeland developments, surface resources will be disturbed as little as possible. After construction, disturbed surfaces will be restored to a natural condition as far as is practicable.

(D3) LGSRMP page 13. Before installing facilities, BLM will conduct a site evaluation for state-protected animals and will develop mitigation to protect these species and their habitats. Such mitigation might include project relocation, redesign, or abandonment.

(D3) LGSRMP page 13. Fences proposed in big game habitat will be designed to reduce adverse impacts to big game movement. Specifications in BLM Manual 1737 and in local BLM directives will be used. BLM will consult with the Arizona Game and Fish Department on the design and location of new fences.

(D4) LGSRMP page 14. BLM will continue to place wildlife escape ramps in water troughs and construct or maintain new wildlife waters in coordination with state and other federal agencies and according to the following specifications.

(D5) LGSRMP page 14. All livestock waters will provide safe, usable water for wildlife. As funding and opportunities occur, existing facilities will be modified for safe wildlife use. The following standards apply to design and modification of livestock waters.

The above-ground height of livestock troughs and tanks will not exceed 20 inches. BLM will install wildlife escape ladders in each facility and provide ramps for small bird and mammal access. Storage tanks will have either a metal or floating vinyl cover to reduce evaporation and prevent wildlife from drowning.

Ground-level wildlife water developments will be established on livestock waters where feasible. An enclosure of three to seven acres containing the water source, storage, and related riparian habitat will be built to exclude livestock. Where terrain permits, livestock water will be provided at least 0.25 miles outside of the fenced enclosure.

Where practical, water troughs and tanks will be kept full year-round to provide a continuous water supply for wildlife

(D6) LGSRMP page 14. Where existing fences in big game habitat do not meet BLM specifications, they will be modified according to BLM Manual 1737 when they are scheduled for replacement or major maintenance.

E. Decisions from the Lower Gila South Resource Management Plan, Goldwater Amendment, (LGSRMPGA), 1990

(E1) LGSRMPGA page 9. The BLM will evaluate, through an HMP, the development and improvement of water sources for species dependent on open water (modified LAFR Plan recommendation 8-3).

(E2) LGSRMPGA page 9. The BLM will comply with NEPA and ESA regulations for all wildlife projects. The BLM is required by law to meet the requirements for NEPA and ESA (LAFR Plan Recommendation 8-4).

(E3) LGSRMPGA page 9. The BLM will evaluate the cumulative impacts of land disturbance on wildlife habitat in order to establish criteria for protection of important habitat when making land use decisions (LAFR Plan Recommendation 8-5).

(E4) LGSRMPGA page 9. The BLM will establish wildlife inventories and monitoring for game and non-game species to provide information for guiding land use decisions (modified LAFR Plan Recommendation 8-6). Species addressed may include: flat-tailed horned lizard, desert bighorn sheep, mule deer, white-tailed deer, [Sanborn's] Lesser long-nosed bat, peregrine falcon, Colorado Desert fringe toad lizard, Yuma puma, desert tortoise and other species as needed.

F. Decisions from the Lower Gila South Habitat Management Plan (LGSHP), 1990

(F1) LGSHP page 20. AGFD will, in cooperation with BLM, release supplemental groups of desert bighorn sheep into the Gila Bend and Maricopa Mountains at dates yet to be determined. These transplants will help bolster the populations from an estimated 290 animals, for the mountain complex containing the Gila Bend Mountains, to an estimated potential of 400 animals, and from an estimated 20 animals in the Maricopa Mountains to the estimated potential of 200 (Desert Bighorn Sheep Rangewide Plan 1988)

(F2) LGSHP page 20-23. BLM and AGFD will cooperate in improving existing developments by constructing additional storage, apron area or by replacing barbed wire fencing around the drinkers with pipe rail fences. The pipe rail will permit easier access by desert bighorn sheep and mule deer while preventing entry by domestic livestock or burros. 446, 691, 451, 705, 554, 555, 450

(F3) LGSHP page 23. Monitor forage utilization (LGS) in mule deer habitat. Re-read transects every five years. Special consideration may be given to the Arnold Allotment, if retired.

(F4) LGSHP page 23. BLM will maintain the Butterfield well development in T.4S., R.3 W., Sec. 36, NWSW, yearlong for wildlife. This will involve pumping the existing well with a submersible pump and portable three-phase generator.

(F5) LGSHP page 23. Forage utilization will be monitored in mule deer habitat. Cole browse age/form

transects established during the inventory phase of the Lower Gila South RMP will be re-read every five years. Priority in the monitoring process will be given to areas where browse hedging is severe.

(F4) LGSHP page 27. Monitor forage utilization (LGS) in bighorn sheep habitat. Re-read transects every five years.

G. Decisions from the Maricopa Complex Wilderness Management Plan, Environmental Assessment and Decision Record (MCWMP), 1995

(G1) MCWMP page 43. If foraging standards are exceeded in the wildernesses due to wildlife use, the BLM will work with the Arizona Game and Fish Department to resolve the issue in the affected areas.

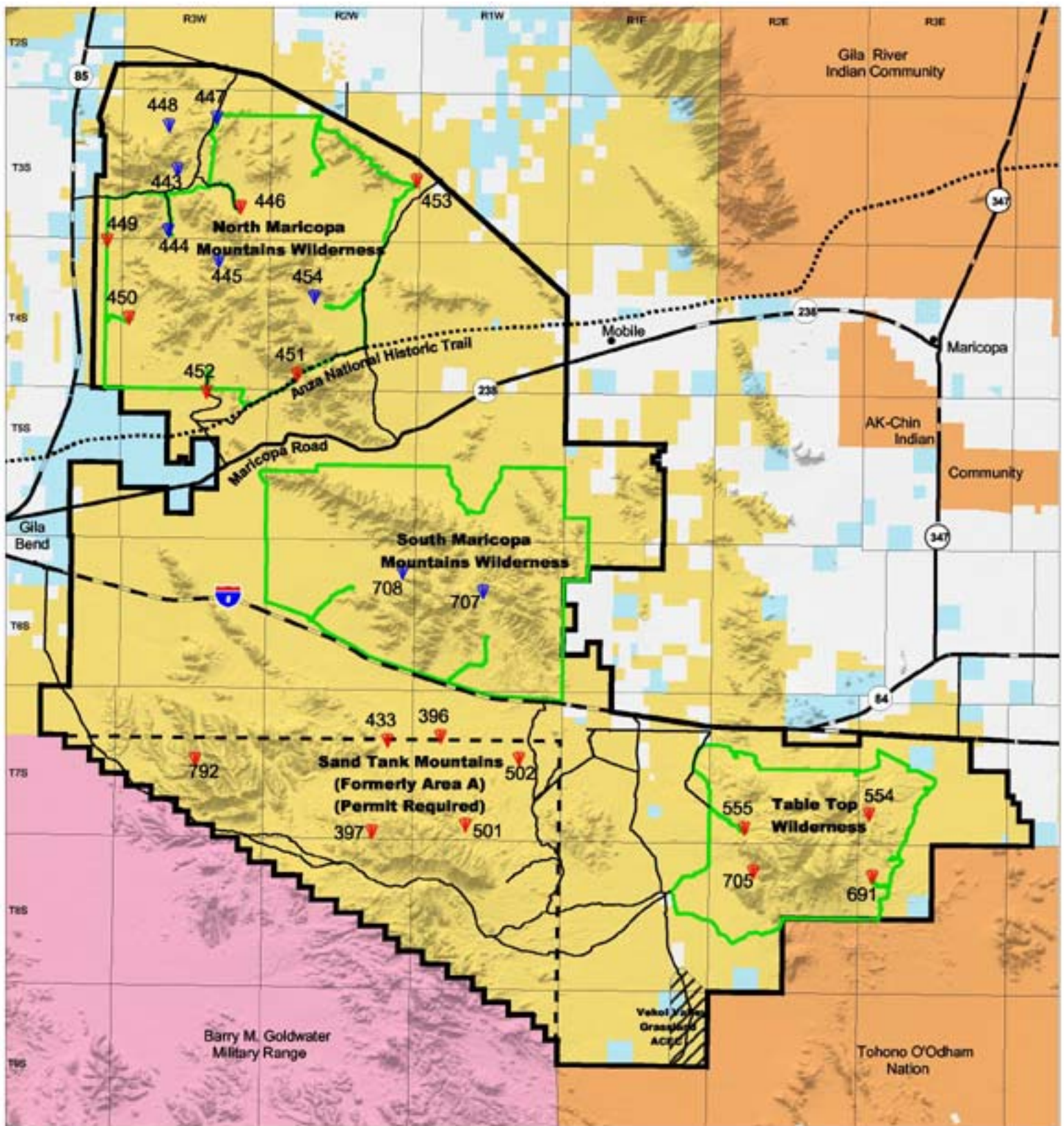
(G2) MCWMP page 41. Rest identified areas (see Monitoring discussion page 43) in the North Maricopa Mountains, Sierra Estrella and Table Top wildernesses from cattle grazing for one favorable growing season and work with the Arizona Game and Fish Department to reduce wildlife populations if the key forage plant utilization standards are exceeded.

(G3) MCWMP page 43. Grazing use of key species will be monitored by range management specialists or wildlife biologists at existing study sites (see maps 6 to 9) with the frequency identified in Table 8.

(G4) MCWMP page 43. If foraging standards are exceeded by livestock use, the prescribed rest will be provided by closing gates in the Don's Tank and Tucker Tank waterlot fences in the North Maricopa Mountains Wilderness by removing livestock from the mountain pasture created by the gap fence in the Sierra Estrella Wilderness and by closing the east gate in the Red Tank waterlot fence west of the Table Top Wilderness. If foraging standards are exceeded due to wildlife use, the BLM will work with the Arizona Game and Fish Department to resolve the issue in the affected areas.

Table 1. Catchments within the Sonoran Desert National Monument, including the North and South Maricopa Mountains and Table Top Wildernesses. Those catchments in bold have not been maintained.

Catchment Identifier	Mountain Range	Legal Description	In Wilderness	Addressed in other NEPA Documents	Maintenance Completed
443 Maricopa #1	North Maricopa Mtns	T.3S., R.3W., Sect 21, SWNW	N	Y	Y
444 Maricopa #2	North Maricopa Mtns	T.3S., R.3W., Sect 32 NWSE	N Cherry-stemmed	Y	Y
445 Maricopa #3	North Maricopa Mtns	T.3S., R.3W., Sect 3 SESE	Y	Y	Y
446 Maricopa #4	North Maricopa Mtns	T.3S., R.3W., Sect 26 SWSW	N. Cherry-stemmed	Y	N
447 Maricopa #5	North Maricopa Mtns	T.3S., R.3W., Sect 10 NENE	N	Y	Y
448 Maricopa #6	North Maricopa Mtns	T.3S., R.3W., Sect 8 NENE	N	Y	Y
449 Maricopa #7	North Maricopa Mtns.	T.4S., R.4W., Sect 1 NENW	N	N	N
450 Maricopa #8	North Maricopa Mtns	T.4S., R.3W., Sect 19 SENW	N. Cherry-stemmed	Y	N
451 Maricopa #9	North Maricopa Mtns	T.4S., R.2W., Sect 32 NESW	N	Y	N
452 Maricopa #10	North Maricopa Mtns	T.5S., R.3 W., Sect 3 NWNE	N	N	N
453 Maricopa #11	North Maricopa Mtns	T.3S., R.2W., Sect 24 SWNE	N	Y	N
454 Maricopa #12	North Maricopa Mtns	T.4S., R.2W., Sect 17 SENE	Y	Y	Y
707 Maricopa #13	South Maricopa Mtns	T.6S., R.1W., Sect 16 NENE	Y	Y	Y
708 Maricopa #14	South Maricopa Mtns	T.6S., R.2W., Sect 12 SWNE	Y	Y	Y
554 Table Top #1	Table Top Mountains	T.7S., R.3E., Sect 30 NWNW	Y	Y	N
555 Table Top #2	Table Top Mountains	T.7 S., R 2E., Sect 32 SWNE	N Cherry-stemmed	Y	N
691 Table Top #3	Table Top Mountains	T.8S., R.3E., Sect 7 NESW	N Cherry-stemmed	Y	N
705 Table Top #4	Table Top Mountains	T.8S., R.2E., Sect 8 NENE	Y	Y	N
396 Sand Tank #1	Sand Tank Mtns	T.7S., R.2W., Sect 14 NW NW	N	N	N
397 Sand Tank #2	Sand Tank Mtns	T.7S. R.5W., Sect 33	N	N	n
433 Mesquite Well	Sand Tank Mtns	T.7S., R.2W., Sect 16 NENW	N	N	N
501 Sand Tank #5	Sand Tank Mtns	T.8S., R.1W., Sect 28 NWSE	N	N	N
502 Sand Tank #6	Sand Tank Mtns	T.8S., R.1W., Sect 10 NWSE	N	N	N
792 Sand Tank #9	Sand Tank Mtns	T.7S., R.3W., Sect 25 SENW	N	N	N



SDNM Water Developments



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

INFORMATION ON TAKING APPEALS TO THE BOARD OF LAND APPEALS

DO NOT APPEAL UNLESS

1. This decision is adverse to you,
AND
2. You believe it is incorrect

IF YOU APPEAL, THE FOLLOWING PROCEDURES MUST BE FOLLOWED

1. NOTICE OF APPEAL Within 30 days file a *Notice of Appeal* in the office which issued this decision (see 43 CFR Secs. 4.411 and 4.413). You may state your reasons for appealing, if you desire.
2. WHERE TO FILE
NOTICE OF APPEAL Bureau of Land Management
Phoenix Field Office
21605 North 7th Ave.
Phoenix, AZ 85027

SOLICITOR
ALSO COPY TO Office of the Field Solicitor, USDI
Attn: Richard Greenfield
Sandra Day O'Connor
US Courthouse, Suite 404
401 West Washington Street, SPC 44
Phoenix, AZ 85003-2151
3. STATEMENT OF REASONS . . Within 30 days after filing the *Notice of Appeal*, file a complete statement of the reasons why you are appealing. This must be filed with the United States Department of the Interior, Office of the Secretary, Board of Land Appeals, 4015 Wilson Blvd., Arlington, Virginia 22203 (see 43 CFR Sec. 4.412 and 4.413). If you fully stated your reasons for appealing when filing the *Notice of Appeal*, no additional statement is necessary.

SOLICITOR
ALSO COPY TO Office of the Field Solicitor, USDI
Attn: Richard Greenfield
Sandra Day O'Connor
US Courthouse, Suite 404
401 West Washington Street, SPC 44
Phoenix, AZ 85003-2151
4. ADVERSE PARTIES Within 15 days after each document is filed, each adverse party named in the decision and the Regional Solicitor or Field Solicitor having jurisdiction over the State in which the appeal arose must be served with a copy of: (a) the *Notice of Appeal*, (b) the Statement of Reasons, and (c) any other documents filed (see 43 CFR Sec. 4.413). Service will be made upon the Associate Solicitor, Division of Energy and Resources, Washington, D.C. 20240, instead of the Field or Regional Solicitor when appeals are taken from decisions of the Director (WO-100).
5. PROOF OF SERVICE Within 15 days after any document is served on an adverse party, file proof of that service with the United States Department of the Interior, Office of the Secretary, Board of Land Appeals, 4015 Wilson Blvd., Arlington, Virginia 22203. This may consist of a certified or registered mail "Return Receipt Card" signed by the adverse party (see 43 CFR Sec. 4.401(c)(2)).

Unless these procedures are followed your appeal will be subject to dismissal (see 43 CFR Sec. 4.402). Be certain that all communications are identified by serial number of the case being appealed.

NOTE: A document is not filed until it is actually received in the proper office (see 43 CFR Sec. 4.401(a))

SUBPART 1821.2--OFFICE HOURS; TIME AND PLACE FOR FILING

Sec. 1821.2-1 *Office hours of State Offices.* (a) State Offices and the Washington Office of the Bureau of Land Management are open to the public for the filing of documents and inspection of records during the hours specified in this paragraph on Monday through Friday of each week, with the exception of those days where the office may be closed because of a national holiday or Presidential or other administrative order. The hours during which the State Offices and the Washington Office are open to the public for the filing of documents and inspection of records are from 10 a.m. to 4 p.m., standard time or daylight saving time, whichever is in effect at the city in which each office is located.

Sec. 1821.2-2(d) Any document required or permitted to be filed under the regulations of this chapter, which is received in the State Office or the Washington Office, either in the mail or by personal delivery when the office is not open to the public shall be deemed to be filed as of the day and hour the office next opens to the public.

(e) Any document required by law, regulation, or decision to be filed within a stated period, the last day of which falls on a day the State Office or the Washington Office is officially closed, shall be deemed to be timely filed if it is received in the appropriate office on the next day the office is open to the public.

* * * * *

See 43 CFR Sec. 4.21 for appeal general provisions.